

L58 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1974:29105 CAPLUS
 DN 80:29105
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 TI Aids for separating aerated lightweight concrete forms
 IN Staude, Werner; Ewers, Hans P.
 SO Ger. (East), 5 pp.
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 DT Patent
 LA German
 IC C10M; B28B
 CC 51-7 (Petroleum, Petroleum Derivatives, and Related Products)
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 92990		19721005	DD 1971-153697	19710312 <--
AB	A-paraffin- and phenol-free-petroleum-fraction (97-99%), b.p. >420°, with a viscosity V50 of 80-250 cSt, a color number (Ostwald) <6 and a sapon. number of 1.5-6.5 mg KOH/g was mixed with 1-3% oleic acid and/or rape oil to yield a lubricant for molds of prefabricated aerated light-weight concrete parts. The mixture withstands high temps. and does not affect the color of the concrete.				
ST	concrete mold lubricant				
IT	Lubricating oils (for concrete molds)				
IT	Rape oil RL: USES (Uses) (lubricating oils containing, for concrete molds)				
IT	Molds (forms) (lubricating oils for)				
IT	Concrete (molds, lubricating oils for)				
IT	112-80-1, uses and miscellaneous RL: USES (Uses) (lubricating oils containing, for concrete molds)				
RN	112-80-1				

L58 ANSWER 2 OF 2 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1973-02618U [03] WPIDS
 TI Mould release agents - esp for pre-formed expanded concrete parts,contg mineral/vegetable oil mixts.
 DC H08 L02 P64
 PA (STA-I) STAUDE W EWERS HP
 CYC 1
 PI DD 92990 A (197303)* <--
 DD 92990 B 19750905 (197550) <--
 PRAI DD 1971-153697 19710312
 IC B28B007-38; C10M001-02
 AB DD 92990 A UPAB: 19930831
 The mould release agents consist of a pre-treated mineral oil fraction of boiling range over 420 degrees C and an oily material e.g. rape seed oil and/or oleic acid, with viscosity at 50 degrees C of 80-250 c St, Ostwald colour value <6, and saponification value of 1.5-6.5 mg. KOH/g. Pre-treatment of the mineral oil is pref. by de-waxing with opt. phenol-refining. The compsns are especially suitable for applying to the moulds for preformed parts of gas-expanded concrete, especially for decorative purposes. Stoppages of the equipment and damage to the parts is avoided, together with discolouration of the part at the elevated temps. used in blowing and hardening the concrete.
 FS CPI GMPI
 FA AB

MC CPI: H08-D; L02-D02

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10/07/89

PTO 04-2683

East German Patent No. 92 990

MOLD RELEASE AGENT, IN PARTICULAR FOR GASIFIED
LIGHTWEIGHT CONCRETE

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GERMAN DEMOCRATIC REPUBLIC
OFFICE FOR INVENTIONS AND PATENTS
PATENT NO. 92 990

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80 a, 46

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A second patent has been published concerning Patent No. 92 990

(Partially suspended according to § 6, section 1 of the modified law concerning the Patent Law)

MOLD RELEASE AGENT, IN PARTICULAR FOR GAS LIGHT
CONCRETE

[Formtrennhilfsmittel, insbesondere für Gasleichtbeton]

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Hans-Peter Ewers

Applicant: Werner Staude and
Hans-Peter Ewers

The invention relates to a mold release agent, in particular for the release of the molds from finished parts made of gasified lightweight concrete in the construction industry.

For the release of molds from finished parts made of concrete, it is known to use agents which consist of silicon oils, low viscosity mineral oils with greasing agents, such as rapeseed oil, olein or fatty acids, and waxes or wax dispersions. As far as the mold release agents that are used for the manufacture of conventional finished parts made of concrete are concerned, there are no requirements concerning the temperature behavior or the color behavior compared with

regard to the finished part and [illegible]. In the manufacture of finished parts made of gasified lightweight concrete, which are used as exposed concrete, higher temperatures occur both in the refining and also in the post-hardening process. Under these conditions, a good release effect has so far not been successfully achieved with the known mold release agents. Finished parts made of gas lightweight concrete were either completely or partly destroyed when the two were separated, as a result of the packaging of the mold and the finished part.

Moreover, finished parts made of gasified lightweight concrete cannot be used as exposed concrete due to undesirable coloration, caused by the mold release substances.

The purpose of the invention is to provide a mold release agent, in particular for the manufacture of finished parts made of gasified lightweight concrete, which agent produces a good release effect when the mold is separated from the finished part, without detrimental influence on the color of the finished parts.

The problem of the invention is to produce a mold release agent based on mineral oil using pretreated mineral oil fractions and a greasing agent, which are in part of a conventional type known from the manufacture of finished parts of concrete and in part new ones which have been pretreated in an appropriate manner, which can be used under the conditions of the manufacture of gasified lightweight concrete, such as high temperatures both in the refining and also in the post-hardening process, a good absorption capacity and a high color stability of the gasified lightweight concrete.

Surprisingly it was found that a mixture in the viscosity range V_{50} 80-200 cSt, having a color index according to Ostwald <6 , a saponification index of 1.5-5 mg KOH/g, and consisting of deparaffinized, or deparaffinized and phenol refined, mineral oil fractions with a boiling point range $>420^{\circ}\text{C}$ and a fattening agent, such as rapeseed oil and/or oleic acid, fulfills all the requirements which are placed on a mold release agent for the manufacture of gasified lightweight concrete.

The solution according to the invention allows a satisfactory release of the molds from the finished part and, consequently, a partially automated manufacturing process under the conditions existing in the manufacture of finished parts made of gasified lightweight concrete, so that at the manufacturer's facility, down times of the installations, an expensive post-treatment or destruction of the finished parts are avoided. In addition, the finishing agent does not have a detrimental effect on the color of the finished concrete parts. As a result, they can be used as exposed concrete without post-treatment.

The invention is explained in greater detail below with reference to several embodiment examples:

Example 1:

A mold release agent for the manufacture of finished parts made of gasified lightweight concrete is obtained when one mixes 20 parts by weight of a deparaffinized and phenol refined mineral oil fraction having a boiling point range $>540^{\circ}\text{C}$ with 79 parts by weight of a phenol refined and deparaffinized fraction having a boiling point range of $420-460^{\circ}\text{C}$ and with 1 part by weight of oleic acid.

Example 2:

By mixing 34 parts by weight of a mineral oil fraction having a boiling point range $>540^{\circ}\text{C}$ with 64 parts by weight of a fraction having a boiling point range $420-460^{\circ}\text{C}$, which had been phenol refined and deparaffinized, and 1 part by weight of oleic acid as well as 2 parts by weight of rapeseed oil, one obtains a mold release agent for finished parts made of gasified lightweight concrete, which is used in the known manner.

Example 3:

From 44 parts by weight of a deparaffinized and phenol refined fraction having a boiling point range $>540^{\circ}\text{C}$ and 54 parts by weight of a deparaffinized fraction having a boiling point range of $420-460^{\circ}\text{C}$ as well as 2 parts by weight rapeseed oil, one obtains by mixing, a mold release agent which is well suited for the manufacture of finished parts made of gasified lightweight concrete.

Claims

1. Mold release agent, in particular for gasified lightweight concrete, characterized in that it consists of pretreated mineral oil fractions having a boiling point range $>420^{\circ}\text{C}$ and a fattening agent, such as rapeseed oil and/or oleic acid, and presents the following parameters:

V_{50}	80-250 cSt
Color index according to Ostwald	<6
Saponification index	1.5-6.5 mg KOH/g

2. Mold release agent according to Claim 1, characterized in that the pretreatment of the mineral oil fractions is carried out by deparaffinization, or by deparaffinization and phenol refining.